CLAIMS

1. A method of forming a bright anodized coating on a surface of an aluminum alloy article, when said alloy contains more than three percent by weight magnesium, said method comprising

anodizing said surface in an aqueous sulfuric acid bath containing 100 to 200 grams of sulfuric acid per liter of bath at a temperature and a current density that produces a desired thickness of a clear anodized layer suitable for color finishing.

2. A method as recited in claim 1 in which said anodizing is conducted at a temperature in the range of 18 to 25°C and at a current density in the range of about 3 A/ft^2 to no more than 10 A/ft^2.

3. A method as recited in claim 1 or 2 in which the following step is conducted prior to said anodizing step,

immersing said surface to be anodized in an aqueous acid solution at a temperature below about 100°F, said solution comprising one or more mineral acids selected from the group consisting of, by weight, ten to twenty percent sulfuric acid, ten to thirty percent nitric acid, and forty to eighty percent phosphoric acid until the magnesium content in said surface is reduced to less than three percent and to produce a glossy surface.

4. A method as recited in claim 3 further comprising, during said immersing step, establishing said surface as an anode in a direct current circuit with said solution as the electrolyte and applying a direct current voltage (10 to 25 V) to said surface.

5. A method of making a body component for an automotive vehicle, said component comprising a formed sheet of an aluminum alloy containing more than about four percent by weight magnesium, said method comprising

forming said sheet into a body component having a surface requiring a decorative finish,

anodizing said surface in an aqueous sulfuric acid bath comprising 100 to 200 grams per liter of sulfuric acid at a temperature in the range of about 18 to 25°C and at a current density in the range of about three to no more than ten amperes per square foot of said surface to form a clear coating of aluminum oxide having a thickness of about ten to 25 micrometers.

6. A method as recited in claim 5 in which the following step is conducted prior to said anodizing step,

immersing said surface to be anodized in an aqueous acid solution at a temperature below about 100°F, said solution comprising one or more mineral acids selected from the group consisting of, by weight, ten to twenty percent sulfuric acid, ten to thirty percent nitric acid, and forty to eighty percent phosphoric acid until the magnesium content in said surface is reduced to less than three percent and to produce a glossy surface.

7. A method as recited in claim 3 further comprising, during said immersing step, establishing said surface as an anode in a direct current circuit with said solution as the electrolyte and applying a direct current voltage (10 to 25 V) to said surface.